

WHAT IS CLAIMED IS:

- 1           1.    A process for the fabrication of integrated  
2           resistive elements with protection from silicidation,  
3           comprising:  
4                    delimiting at least one active area in a  
5           semiconductor substrate; and  
6                    forming at least one resistive region having a  
7           pre-set resistivity in said active area;  
8                    forming a delimitation structure that delimits  
9           said resistive region on top of said active area; and  
10                   providing salicidation protective elements which  
11           extend within said delimitation structure and cover said  
12           resistive region.
- 1           2.    The process according to claim 1, wherein forming  
2           said delimitation structure comprises making delimiters  
3           having portions set facing one another.
- 1           3.    The process according to claim 2, wherein forming  
2           said resistive region comprises implantation of a dopant  
3           species in said active area between said delimiters.

1           4.    The process according to claim 1, wherein making  
2   protective elements comprises:

3                depositing a dielectric layer covering said  
4   delimitation structure and said resistive region; and  
5                anisotropically etching said dielectric layer.

1           5.    The process according claim 4, wherein, during  
2   anisotropically etching, said dielectric layer is  
3   completely removed above said delimitation structure and  
4   is partially removed above said resistive region.

1           6.    The process according to claim 4, wherein said  
2   dielectric layer has a thickness of at least one half of  
3   a distance between opposed delimiters defining the  
4   delimiting structure.

1           7.    The process according to claim 6, wherein said  
2   delimiters have a height of approximately one half of said  
3   distance.

1           8.    The process according to claim 4, wherein said  
2   dielectric layer is made of a material selected in the  
3   group consisting of: silicon dioxide, silicon nitride, and  
4   silicon oxynitride.

1           9.    The process according to claim 1, wherein said  
2   delimitation structure is made of polysilicon.

          10.    The process according to claim 1, wherein forming  
said delimitation structure precedes forming said resistive  
region.

1           11. A semiconductor wafer comprising:  
2                   at least one active area;  
3                   at least one resistor having a resistive region  
4   obtained within said active area; and  
5                   a delimitation structure set on top of said  
6   active area to delimit said resistive region.

1           12. The wafer according to claim 11, wherein said  
2   delimitation structure is made of a material used in the  
3   semiconductor industry.

1           13. The wafer according to claim 12, wherein said  
2   delimitation structure is made of a material selected from  
3   a group consisting of a dielectric, a semiconductor and a  
4   metal.

1           14. The wafer according to claim 12, wherein said  
2   delimitation structure is made of polysilicon.

1           15. The wafer according to claim 11, characterized  
2   by comprising protective elements which extend within said  
3   delimitation structure and coat said resistive region.

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1           16. The wafer according to claim 15, wherein said  
2   protective elements are made of a dielectric material.

1           17. An integrated device comprising:  
2               a semiconductor body;  
3               at least one active area on the semiconductor  
4 body;  
5               at least one resistor having a resistive region  
6 within said active area;  
7               a delimitation structure set on top of said  
8 active area to delimit said resistive region.

1           18. The integrated device according to claim 17,  
2 wherein said delimitation structure is made of a material  
3 used in the semiconductor industry.

1           19. The integrated device according to claim 18,  
2 wherein said delimitation structure is made of a material  
3 selected from a group consisting of a dielectric, a  
4 semiconductor and a metal.

1           20. The integrated device according to claim 18,  
2 wherein said delimitation structure is made of polysilicon.

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1           21. The integrated device according claim 17,  
2 characterized by comprising protective elements which  
3 extend within said delimitation structure and coat said  
4 resistive region.

1           22. The integrated device according to claim 21,  
2 wherein said protective elements are made of a dielectric  
3 material.

1           23. A process for integrated circuit fabrication,  
2   comprising:  
3            defining an active area in a semiconductor  
4   substrate;  
5            forming a resistive region having a pre-set  
6   resistivity in the active area;  
7            forming a polysilicon structure which delimits  
8   the resistive region;  
9            depositing a protective layer over the  
10   polysilicon structure and resistive region;  
11           etching the protective layer back to expose the  
12   polysilicon structure without uncovering the resistive  
13   region; and  
14           saliciding the exposed polysilicon structure  
15   without affecting the pre-set resistivity in the active  
16   area.

1           24. The process according to claim 23, wherein  
2   forming the polysilicon structure comprises making opposed  
3   delimiters having portions set facing one another.



1           25. The process according to claim 24, wherein  
2     forming said resistive region comprises implantation of a  
3     dopant species in said active area between said delimiters.

1           26. The process according to claim 23, wherein the  
2     protective layer is a dielectric layer and the etching is  
3     anisotropic.

1           27. The process according claim 23, wherein the  
2     etching of the protective layer completely removes the  
3     layer above the polysilicon structure and partially removes  
4     the layer above the resistive region.

1           28. The process according to claim 23, wherein the  
2     protective layer has a thickness of at least one half of  
3     a distance between opposed delimiters defining the  
4     polysilicon structure.

1           29. The process according to claim 28, wherein the  
2     opposed delimiters each have a height of approximately one  
3     half of said distance.

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1           30. An integrated circuit fabricated using the method  
2 of claim 23.

1           31. A semiconductor wafer fabricated using the method  
2 of claim 23.